[0046] It should be understood that throughout the present specification the term "alarm or critical situation" should be understood to mean when a system parameter is exceeded or an external influence has to be taken account of. For example, in a military situation this could be the proximity of another object such as a plane, missile etc., or it can even be the receiving of a signal such as a radar-lock from a missile.

[0047] The techniques of making a viewer preattentively aware are described in the background art section of this specification and within this explanation it makes it clear that moving information from one focal plane to another is a very fast and effective method for inducing preattentive awareness.

[0048] One of the extreme advantages of this technique is that the viewer need only have the information in their peripheral vision for the technique to be effective. This fact alone will vastly improve the reaction time to an alarm as when preattentive techniques are not used then the viewer generally needs to focus on the alarm information in order to comprehend its relevance or meaning.

[0049] According to another aspect of the present invention there is provided a method of displaying information for viewing by a user, including

[0050] at least two focal planes, and

[0051] a control system

[0052] characterised by the steps of:

[0053] a) displaying primary information in a distinct colour or pattern on a first focal plane, and

[0054] b) displaying secondary information in a distinct colour or pattern on at least a second focal plane, and

[0055] c) when the primary and secondary information overlap or come into a proximity that is commensurate with an alarm situation the displayed information will change colour or pattern so that the viewer will become aware of this information.

[0056] According to yet another aspect of the present invention there is provided an instrument for displaying information for viewing by a user, including

[0057] a visual display system including at least two single level screens spaced physically apart to form a multi-level screen, and

[0058] primary information displayed in a distinct colour or pattern on the first focal plane of the instrument, and secondary information displayed in a distinct colour or pattern on at least the second focal plane of the instrument,

[0059] characterised in that

[0060] when the primary and secondary information overlap or come into a proximity that is commensurate with an alarm situation the displayed information will change colour or pattern so that the viewer will become aware of this information.

[0061] It should be further understood that within the present specification the terms "primary information" and "secondary information" are not intended to infer or suggest any hierarchical relationship or degree of relative importance between the primary and secondary information. In general the terms are used to disseminate between information on different focal planes within the display.

[0062] The term pattern is intended to mean a distinct configuration. For example, a first pattern may be a series of horizontal lines within the second pattern vertical lines. The resultant new pattern formed by an overlap may be hatched grid indicating an alarm situation.

[0063] Preferably the information is represented by colour.

[0064] Due to the fact that the primary information and the secondary information are displayed on separate focal planes within the screen the area of overlap will automatically be a combination of the two colours i.e.: the colour of the primary information and the colour of the secondary information.

[0065] This means that no special control or software will be necessary to change the colour of the overlapped area as the image on the second focal plane can clearly be seen through the first focal plane as this is a transparent plane and therefore when the secondary information passes behind part or all of the primary information the colour of the image seen by the viewer will change accordingly.

[0066] It is understood that in preferred embodiments of the present invention the colour of the primary information and the colour of the secondary information will be quite distinct so as to form a new distinct colour when they are combined by an overlap of the information e.g.: if the primary information was yellow and the secondary information was blue then the overlapped area would clearly be green, this is an easily disseminatable colour from either yellow or blue and would therefore be easily and quickly recognised by the viewer.

[0067] In some embodiments of the present specification the instrument will be capable of using both of the described methods for displaying information, however this should not be seen to be a limitation on the present invention in any way as in other preferred embodiments only one of the methods will be able to be displayed on the instrument.

[0068] When an alarm or critical situation is detected by the circuits to which the instrument is connected the circuit will instruct the instrument to display the information as described, in order that the viewer of the instrument will be able to preattentively assimilate that an alarm or critical condition has been detected.

[0069] The most significant advantage of the present invention is that by using the preattentive trigger described within this specification rather than just a flashing of the information (or a separate lamp) the viewer of the information will be able to assimilate the information or the condition more rapidly, which will in turn provide the viewer with a greater time in which to react to the situation.

[0070] It is accepted that with a lot of instruments the time in which the viewer will need to react to the information being displayed will be sufficient for most normal methods of relating the alarm situation to the viewer.

[0071] However, particularly for military and avionic applications the time in which a decision has to be reached,